

## TRANSMITTAL OF APPEAL BRIEF (Large Entity)

Docket No.  
ITL1000US

In Patent Application Of: Reuven Lavie

Application No.	Filing Date	Examiner	Customer No.	Group Art Unit	Confirmation No.
10/644,416	August 20, 2003	Renee S. Luebke	21906	2833	6954

Invention: Reducing Cross Talk at Ethernet Connectors

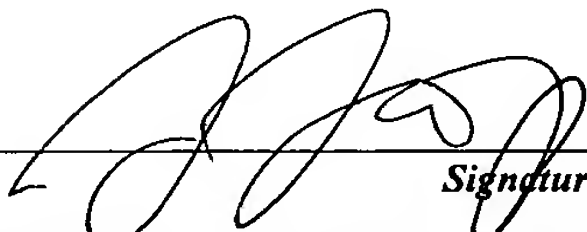
COMMISSIONER FOR PATENTS:

Transmitted herewith in triplicate is the Appeal Brief in this application, with respect to the Notice of Appeal filed on September 29, 2004.

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Dated: October 27, 2004

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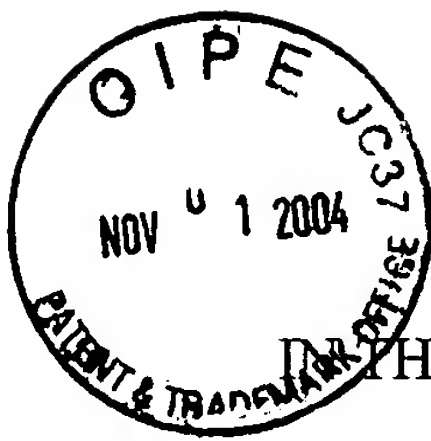
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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Applicant:

Reuven Lavie

Serial No.: 10/644,416

Filed: August 20, 2003

For: Reducing Cross Talk  
at Ethernet Connectors

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Art Unit: 2833

Examiner: Renee S. Luebke

Atty Docket: ITL.1000US  
P16572

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**APPEAL BRIEF**

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### **REAL PARTY IN INTEREST**

The real party in interest is the assignee Intel Corporation.

**RELATED APPEALS AND INTERFERENCES**

None.

## **STATUS OF CLAIMS**

Claims 1-8 and 10-24 are rejected. Each rejection is appealed.

## **STATUS OF AMENDMENTS**

All amendments have been entered.

## **SUMMARY OF CLAIMED SUBJECT MATTER**

Claim 1 calls for capacitively coupling a pair of terminals of an Ethernet connector to reduce cross talk. This is best seen in Figure 3 where the terminals are marked 75 and the capacitive coupling is indicated by 85. See page 5 of the specification, line 1, through page 6, line 5.

The claim also calls for an Ethernet connector. An Ethernet connector is explained in the detailed description at page 3, lines 10-18. See the portion of the Ethernet Specification, attached. The document explains that Ethernet connectors are a recognized term of art and must comply with specific requirements. See the Evidence Appendix at pages 1-3.

At this point, no issue has been raised that would suggest that the words in the claims have any meaning other than their ordinary meanings. Nothing in this section should be taken as an indication that any claim term has a meaning other than its ordinary meaning.



**GROUND OF REJECTION TO BE REVIEWED ON APPEAL**

**A. Are Claims 1-7 Anticipated by Paulson?**

## **ARGUMENT**

### **A. Are Claims 1-7 Anticipated by Paulson?**

One issue is whether Paulson teaches an Ethernet connector as claimed. Paulson does not relate to an RJ-45 type of connector.

The office action cites the material in the specification at page 1. That material, specifically at page 1, lines 10-12, is not specific to Ethernet connectors, but simply refers to types of connectors that can connect network nodes. Moreover, if it were to refer to Ethernet connectors, the phrase “standard connectors” would refer to those connectors that are standard for Ethernet. In other words, there is no reason, even under such an interpretation, to read “standard” as relating to a standard other than Ethernet when Ethernet connectors are involved.

As indicated in the attached document relating to Ethernet connectors, Ethernet connectors must comply with specific requirements. See Evidence Appendix at pages 6-8. Thus, “Ethernet connector” cannot legitimately be equated to cover any connector. In other words, it is improper to simply read Ethernet out of the claim.

Thus, there is simply no reason to believe that any connector can be utilized in Ethernet. Ethernet requires a specific type of connector, that connector is claimed, and the cited reference has no such thing.

Therefore, the rejection of claims 1-7 should be reversed.

Nothing in Paulson in any way suggests any of the limitations in dependent claims, such as dependent claims 3 and 4.

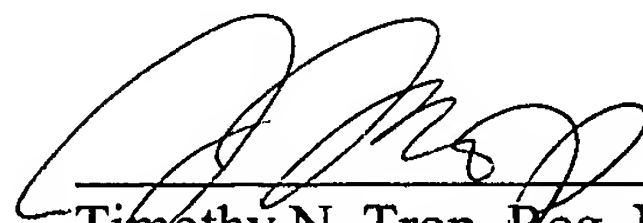
“Ethernet terminals” are structure. An Ethernet terminal is one that can be utilized pursuant to the Ethernet standard. It does not refer to any terminal because to do so would simply read the word Ethernet out of the claim.

Therefore, the rejections of claims 3 and 4 should also be reversed.

Again, it is improper to simply read the word Ethernet out of the claims. There is absolutely no statutory basis for doing so.

Respectfully submitted,

Date: October 27, 2004



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## **CLAIMS APPENDIX**

The claims on appeal are:

1. A method comprising:  
capacitively coupling a pair of terminals of an Ethernet connector to reduce cross talk.
2. The method of claim 1 further including:  
coupling a first capacitor between a first pair of terminals and coupling a second capacitor between a second pair of terminals.
3. The method of claim 1 further including:  
coupling a capacitor between the terminals coupled to B+ and C- channels.
4. The method of claim 3 including coupling a capacitor between the C+ and B- channels.
5. The method of claim 1 including coupling an adjacent channel to a non-adjacent channel by a capacitor.
6. The method of claim 1 including coupling a capacitor between complementary channels.
7. The method of claim 1 including reducing near end cross talk by capacitively coupling non-adjacent channels.
8. A network connector comprising:  
a non-conductive housing having a jack;  
a plurality of Ethernet terminals to receive Ethernet network signals;  
a first capacitor to couple a first pair of said Ethernet terminals; and

a second capacitor to couple a second pair of said Ethernet terminals, said terminals to contact mating Ethernet connectors.

10. The network connector of claim 8 wherein said first pair of terminals include terminals to receive B+ and C- channels.

11. The network connector of claim 10 wherein said second pair of terminals include terminals to receive the C+ and B- channels.

12. The network connector of claim 8 wherein said first pair of terminals are coupled to complementary channels.

13. The network connector of claim 12 wherein said second pair of said terminals are coupled to complementary channels.

14. The network connector of claim 8 wherein said connector is an Ethernet connector.

15. The network connector of claim 14 wherein said network connector is a fast Ethernet connector.

16. The network connector of claim 14 wherein said network connector is a Gigabit Ethernet connector.

17. A network adapter comprising:  
an Ethernet connector having terminals, wherein a selected pair of terminals are capacitively coupled to non-adjacent terminals.

18. The network adapter of claim 17 further comprising:  
a network interface card; and  
Ethernet networking circuitry located on said network interface card to enable a multi-Gigabit Ethernet connection over a network.
19. The network adapter of claim 18 wherein said Ethernet connector including:  
a first capacitor to couple a first pair of said terminals to receive first channel signals and a second capacitor to couple a second pair of said terminals to receive second channel signals.
20. A processor-based system comprising:  
a processor; and  
a network adapter coupled to said processor, said network adapter including an Ethernet connector having terminals, wherein a pair of said terminals are capacitively coupled.
21. The processor-based system of claim 20, said connector further comprising:  
a first capacitor to couple a first pair of said terminals that are non-adjacent and a second capacitor to couple a second pair of terminals that are non-adjacent.
22. The processor-based system of claim 21 further comprising:  
a network interface card coupled to said processor; and  
Ethernet networking circuitry located on said network interface card to enable a multi-Gigabit Ethernet connection over a network.
23. The processor-based system of claim 22 wherein said Ethernet networking circuitry including:  
a first capacitor to couple a first pair of said terminals and a second capacitor to couple a second pair of said terminals of said channels.
24. The processor-based system of claim 23 wherein said first and second capacitors to reduce near end cross talk.

## **EVIDENCE APPENDIX**

# 802.3®

IEEE Standard for  
Information technology—

Telecommunications and information  
exchange between systems—

Local and metropolitan area networks—

Specific requirements

**Part 3: Carrier sense multiple access with  
collision detection (CSMA/CD) access  
method and physical layer specifications**

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Published by  
The Institute of Electrical and Electronics Engineers, Inc.  
3 Park Avenue, New York, NY 10016-5997, USA

8 March 2002

Print: SH94973  
PDF: SS94973

IEEE Standards



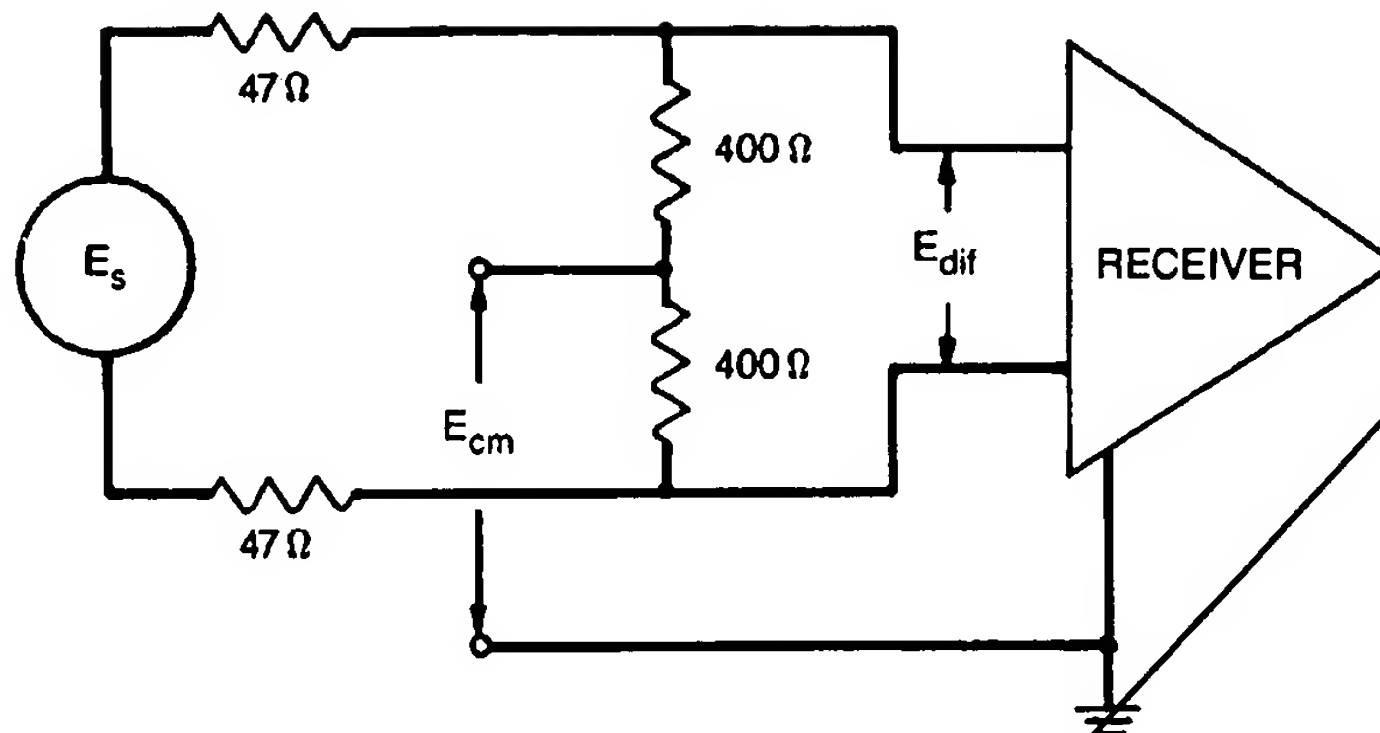


Figure 12–29—Receiver common-mode rejection

### 12.5.3.2.6 Noise immunity

Receivers shall meet the following limits on average error rates when the noise described in 12.7.4 is added to the signals described in 12.5.3.2.1 and 12.5.3.2.2:

- a) When nonidle, the receiver error rate shall not exceed one error in  $10^8$  bits.
- b) When idle, a receiver used in a DTE shall not falsely detect carrier more than one in 100 s.
- c) When idle, a receiver used in a hub shall not falsely detect carrier more than once in 1500 s.

NOTE—Receivers whose inputs include a 2–4 MHz, 2-pole, low-pass, Butterworth filter and a 560 mV squelch level will meet this last requirement for idle mode noise immunity yet still perform properly with the weakest signal allowed by 12.5.3.2.1.

### 12.5.3.2.7 Receiver fault tolerance

Receivers shall tolerate the application of short circuits across their inputs for an indefinite period of time without damage and shall resume normal operation after such faults are removed.

Receivers shall withstand, without damage, a 1000 V common-mode impulse of either polarity, applied as indicated in Figure 12–27. The shape of the impulse shall be 0.3/50  $\mu$ s (300 ns virtual front time, 50  $\mu$ s virtual time of half value), as defined in IEC 60060.

NOTE—Tolerance of, and recovery from, the application of the telephony voltages described in 12.10.2 is optional, but the safety requirements of that subclause are mandatory.

## 12.6 Medium Dependent Interface (MDI) specification

### 12.6.1 Line interface connector

8-pin connectors meeting the requirements of Clause 3 and Figures 1 through 5 of ISO/IEC 8877: 1992 shall be used as the compatibility interface between the PMA and the medium. The use of other types of connectors, if any, within a PMA or within the medium, although not explicitly prohibited, is outside the scope of this standard.

### 12.6.2 Connector contact assignments

The contacts of the connectors, as depicted in Figure 12–32 and Figure 12–31, shall correspond to signaling circuits as indicated below:

Contact	Signal
1	Upward Data+ (positive for HI signal)
2	Upward Data– (negative for HI signal)
3	Downward Data+ (positive for HI signal)
4	not used by 1BASE5
5	not used by 1BASE5
6	Downward Data– (negative for HI signal)
7	reserved
8	reserved

For DTEs and the upper MDI of hubs, contacts 1 and 2 are used for transmitting and contacts 3 and 6 are used for receiving. For the port MDIs of hubs, however, contacts 1 and 2 are used for receiving and contacts 3 and 6 are used for transmitting.

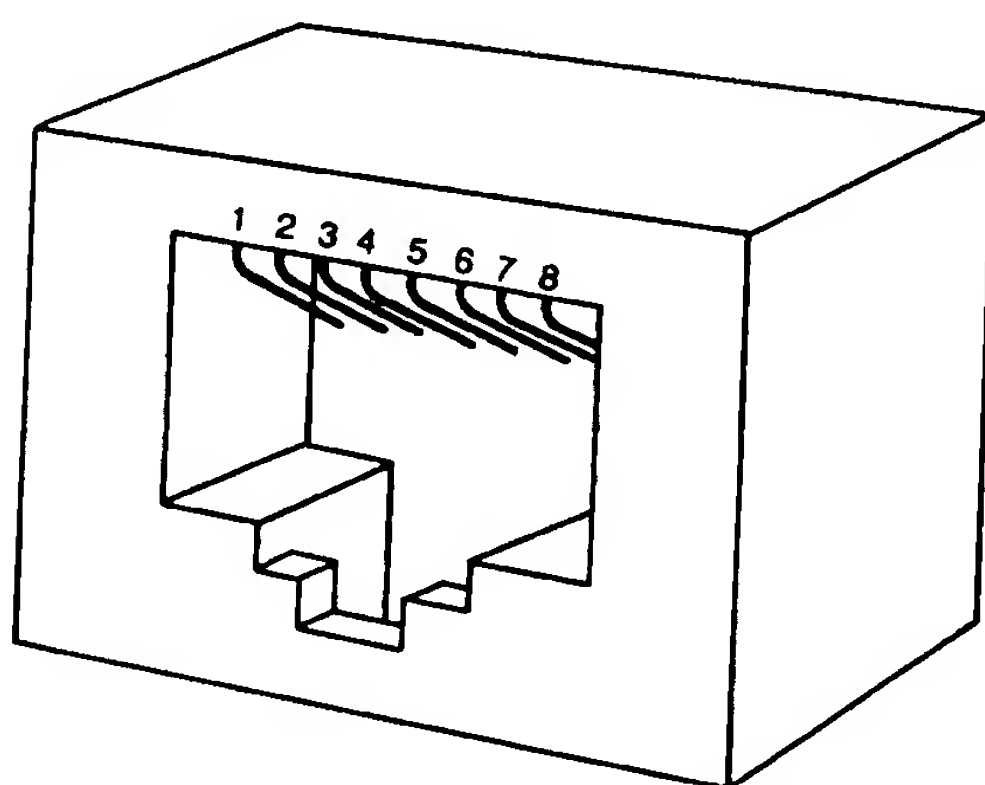


Figure 12–30—DTE and hub connector

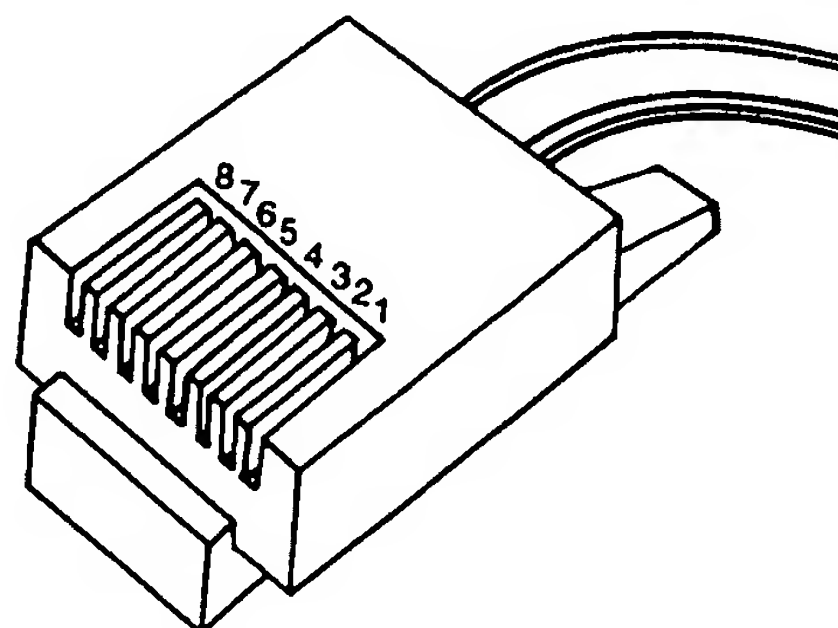


Figure 12–31—Cable connector

### 12.6.3 Labeling

To distinguish 1BASE5 connectors from those used for other purposes, it is recommended that appropriate labels be affixed to wall outlets and other connectors. This is particularly important in environments in which the specified 8-contact connectors are used for more than one purpose.